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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/638,265	08/15/2000	Yoshihiro Ishikawa	3815/96	1100

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EXAMINER	
IQBAL, KHAWAR	

ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/638,265	ISHIKAWA ET AL.	
	Examiner	Art Unit	
	Khawar Iqbal	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gunmar et al (5293640) and further in view of Kraushaar et al (4156109).

3. Regarding claim 1 Gunmar at al teaches a communication performance calculation method in a mobile communication system which includes a plurality of base stations and a plurality of mobile stations for carrying out communication with the base stations, wherein an area where the mobile stations are distributed is divided into a plurality of subdivisions, said communication performance calculation method comprising (figs. 1,2,8 abstract):

a transmission power data storing step of storing transmission power data of the base stations corresponding to the subdivisions, of the mobile stations visiting the subdivisions, or of both the base stations corresponding to the subdivisions and mobile station visiting the subdivisions (col. 6, lines 30-45); a traffic intensity data storing step of storing traffic intensity data of the subdivisions (col. 6, lines 30-45, col. 7, lines 7-25); a traffic calculating step of calculating a mean and variance of applied traffic at the base stations (col. 6, lines 58-67, col. 7, lines 7-25, col. 4, lines 25-50); and a communication performance calculating step of calculating communication performance from the mean

and variance (col. 6, lines 58-67, col. 7, lines 7-25, col. 4, lines 25-50). Gunmar at al does not specifically teach calculating a mean and variance from transmission power data and the traffic intensity data.

In an analogous art, Kraushaar et al teaches calculating a mean and variance from transmission power data and the traffic intensity data (col. 2, lines 50-65). The mean and variance of the number of calls in progress in the network from which the mean of the offered load and its peaked-ness are calculated by mathematical formulae. The device monitors continuously the service channels and records the highest load in a period or fraction of sixty consecutive minutes. The device records the number of times when all the service channels are busy or when a certain threshold is reached and can record the load during an individual group busy hour as well as during the cluster busy hour. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Gunmar at al by specifically adding feature calculating a mean and variance from transmission power data and the traffic intensity data in order to enhance system performance of the system purpose of increasing efficiency of communication system as taught by Kraushaar et al.

Regarding claim 9 Gunmar at al teaches a computer readable recording medium storing a program causing a computer to execute a communication performance calculation method in a mobile communication system which includes a plurality of base stations and a plurality of mobile stations for carrying out communication with the base stations, wherein an area where the mobile stations are distributed is divided into a plurality of subdivisions, said communication performance calculation method

comprising (figs. 1,2,8): a transmission power data storing step of storing transmission power data of the base stations corresponding to the subdivisions, of the mobile stations visiting the subdivisions, or of both the base stations corresponding to the subdivisions and mobile station visiting the subdivisions (col. 6, lines 30-45, col. 10, lines 29-41); a traffic intensity data storing step of storing traffic intensity data of the subdivisions (col. 6, lines 30-45); a traffic calculating step of calculating a mean and variance of applied traffic at the base stations; and a communication performance calculating step of calculating communication performance from the mean and variance (col. 6, lines 58-67, col. 7, lines 7-25, col. 4, lines 25-50). Gunmar at al does not specifically teach calculating a mean and variance from transmission power data and the traffic intensity data.

In an analogous art, Kraushaar et al teaches calculating a mean and variance from transmission power data and the traffic intensity data (col. 2, lines 50-65). The mean and variance of the number of calls in progress in the network from which the mean of the offered load and its peaked-ness are calculated by mathematical formulae. The device monitors continuously the service channels and records the highest load in a period or fraction of sixty consecutive minutes. The device records the number of times when all the service channels are busy or when a certain threshold is reached and can record the load during an individual group busy hour as well as during the cluster busy hour. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Gunmar at al by specifically adding feature calculating a mean and variance from transmission power

data and the traffic intensity data in order to enhance system performance of the system purpose of increasing efficiency of communication system as taught by Kraushaar et al.

Regarding claim 10 Gunmar at al teaches a communication performance calculation apparatus in a mobile communication system which includes a plurality of base stations and a plurality of mobile stations for carrying out communication with the base stations, wherein an area where the mobile stations are distributed is divided into a plurality of subdivisions, said communication performance calculation apparatus comprising (figs. 1,2,8):

transmission power data storing means for storing transmission power data of the base stations corresponding to the subdivisions, of the mobile stations visiting the subdivisions, or of both the base stations corresponding to the subdivisions and mobile station visiting the subdivisions; traffic intensity data storing means for storing traffic intensity data of the subdivisions (col. 6, lines 30-45); traffic calculating means for calculating a mean and variance of applied traffic at the base stations; and communication performance calculating means for calculating communication performance from the mean and variance (col. 6, lines 58-67, col. 7, lines 7-25, col. 4, lines 25-50).Gunmar at al does not specifically teach calculating a mean and variance from transmission power data and the traffic intensity data.

In an analogous art, Kraushaar et al teaches calculating a mean and variance from transmission power data and the traffic intensity data (col. 2, lines 50-65). The mean and variance of the number of calls in progress in the network from which the mean of the offered load and its peaked-ness are calculated by mathematical formulae. The

device monitors continuously the service channels and records the highest load in a period or fraction of sixty consecutive minutes. The device records the number of times when all the service channels are busy or when a certain threshold is reached and can record the load during an individual group busy hour as well as during the cluster busy hour. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Gunmar at al by specifically adding feature calculating a mean and variance from transmission power data and the traffic intensity data in order to enhance system performance of the system purpose of increasing efficiency of communication system as taught by Kraushaar et al.

Regarding claims 2,11 Gunmar at al teaches a first calculating step of calculating, from the transmission power data of the mobile stations stored in the transmission power data storing step, received power at the base stations of signals sent from the mobile stations to the base stations; and a second calculating step of calculating, from the traffic intensity data stored in the traffic intensity data storing step and the received power, the mean and variance of the applied traffic at the base stations (Col. 6, lines 35-54).

Regarding claims 3,12 Gunmar at al teaches a third calculating step of calculating the mean and variance of the applied traffic at the base stations from the transmission power data of the base stations stored in the transmission power data storing step, and from the traffic intensity data stored in the traffic intensity data storing step (Col. 6, lines 35-67).

Regarding claims 4,13 Gunmar at al teaches probability calculating step of calculating probability distribution from the mean and variance of the applied traffic; and a probability decision step of calculating a probability that the applied traffic exceeds a predetermined threshold value (col. 7, lines 24-44, col. 6, lines 35-54).

Regarding claims 5,14 Gunmar at al teaches wherein said probability decision step comprises a step of setting acceptable interference power to the base stations or its constant multiple as the threshold value (col. 7, lines 25-44, see above).

Regarding claims 6,15 Gunmar at al teaches wherein said probability decision step comprises a step of setting a sum of acceptable interference power to the base stations or its constant multiple and thermal noise power of receivers in base stations as the threshold value (col. 7, lines 25-44, see above).

Regarding claims 7,16 Gunmar at al teaches a threshold value calculating step of carrying out calculation using a ratio of a sum of acceptable interference power to the base stations or its constant multiple and thermal noise power of receivers in the base stations to thermal noise power of the receivers (col. 7, lines 25-44, see above); and a step of setting a calculation result in the threshold value calculating step as the threshold value (col. 7, lines 25-44, see above).

Regarding claims 8,17 Gunmar at al teaches wherein said probability decision step comprises a step of setting a total sum of maximum transmission powers of the base stations or its constant multiple as the threshold value (col. 7, lines 24-44, col. 6, lines 35-54).

Response to Arguments

4. Applicant's arguments with respect to claims 1,9,10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **BANKS-HAROLD, MARSHA**, can be reached at 703-305-4379.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2684 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Khawar Iqbal

RAFAEL PEREZ-GUTIERREZ
PATENT EXAMINER
1/26/05